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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,522	02/14/2002	Susanne H. Goodson	2001.ALC	6712

7590 12/15/2005  
Thomas F. Roland  
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EXAMINER

HOWARD, SHARON LEE

ART UNIT PAPER NUMBER

1615

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/074,522

Applicant(s)

GOODSON ET AL.

Examiner

Sharon L. Howard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**The examiner acknowledges receipt of the amendment, the remarks, the petition for extension of time and the letter filed on 9/7/05. Claims 1-10 are pending in the application.**

***Claim Rejections - 35 USC § 103***

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chromecek (U.S. Patent No. 3,886,125).

Chromecek teaches polymer complexes comprising a polymer which is formed from a monomer having hydrophilic functional groups such as amino groups and/or hydroxyl and/or carboxyl groups and containing aluminum, zinc or zirconium metal bound in complex form (see the abstract). Chromecek teaches a starting monomer material such as 2-dimethylaminoethyl methacrylate which may be used in forming the hydrophilic polymers (see col.1, lines 57-68, col.2, lines 1-6) including diethylaminoethyl

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acrylate or methacrylate, para-amino styrene, 2-vinyl pyridine and 4-vinyl pyridine (see col.2, lines 34-55). Chromecek teaches that a portion of the monomer having the complex forming groups can be replaced by a monomer which do not contain any complex forming group such as styrene, vinyl acetate, alkyl acrylates, alkyl methacrylate and acrylonitrile (see col.2, lines 56-64). Chromecek teaches that the complex polymer may be split so as to regenerate the original polymer and that the splitting of the polymer complex can be readily accomplished by treating the complex with hydrochloric acid, sulfuric acid, phosphoric acid or acetic acid or with an alkali (see col.6, lines 38-57).

Chromecek does not teach the particular percent amounts of the protonated amine monomer and the hydrophobic monomer.

However, absence of evidence to the contrary, there are no unusual or unexpected results, since it appears that the prior art teachings and Applicant's claims are achieving the same end result. The burden is shifted upon the Applicant to prove that the claimed polymer is functionally different than those taught by the prior art and to establish patentable differences (*See In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977)).

Applicant's arguments filed 9/7/05 have been fully considered but they are not persuasive. Applicant argues that Chromecek clearly does not teach protonating the amine part of a polymer as protonation cannot be achieved by a base. In contrast to Chromecek, the present invention is directed towards a polymer film formed from 2 to 60 mole percent of protonated amine monomer units. Unlike Chromecek, the present

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invention also does not make use of a complexing metal salt. The presence of a complexing metal salt (e.g., aluminum, zinc or zirconium) would precipitate out the amine polymer of the present invention, making it insoluble in all pH ranges. Such a result is clearly undesirable since the present invention seeks a polymer that is insoluble at high pH and soluble at low pH (see, e.g., Abstract). Thus, the presence of a complexing metal salt as taught by Chromecek would be detrimental to the present invention, causing it to fail. Accordingly, Chromecek does not teach or suggest protonation of its amine functional monomers with a fixed acid. Instead, Chromecek appears to be directed towards chelating a functional polymer with a metal complex. Therefore, Chromecek is directed towards different polymer chemistry than the polymer chemistry of the present application, resulting in a completely different polymer product (and, more importantly, a completely different and undesired solubility profile). Accordingly, Chromecek does not provide any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to form a protonated amine monomer. Second, Chromecek cannot be said to provide a reasonable expectation of success as Chromecek does not teach or suggest protonation of its amine functional monomers; instead, Chromecek is directed towards forming metal complex monomers, which is a different product than that of the presently claimed invention. Finally, Chromecek does not teach or suggest all the claim limitations in that it does not teach protonated amine monomer units. Therefore, the teaching or

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suggestion to make the claimed combination and the reasonable expectation of success is not found in the prior art, but only based on applicant's disclosure.

In response to applicant's arguments, Chromecek does teach a polymer complex comprising amino groups in which amine monomers (see col.2, lines 34-55), a solvent (col.4, line 36), hydrochloric acid or sulfuric acid or acetic acid is added after polymerization (see col.6, lines 50-56) and monomers which include 2-dimethylaminoethyl methacrylate, diethylaminoethylacrylate or methacrylate (see col.2, lines 34-55). In essence, the "comprising" language do not exclude the additional ingredients. Chromecek does teach a polymer complex consisting of aluminum, zinc or zirconium metals bound in complex form (see the abstract).

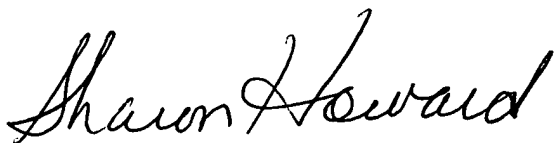
Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the submission under 37 CFR 1.129(a). See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon L. Howard whose telephone number is (571) 272-0596. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sharon Howard  
December 8, 2005



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